

**ABSTRACT OF THE DISCLOSURE**

A transport channel multiplexing system provides improved use of wireless resources in a shared data channel system. For example, the transport channel system reduces the amount of transport format information required for using a shared data channel, such as the actual number of packet data units in a transport channel of the shared data channel. Additionally, by scheduling or multiplexing coded sub-blocks from one or more transport channels over the shared data channel, the transport channel multiplexing system can provide improved integration with other important features, such as incremental redundancy, fast adaptation to channel conditions and transport channel dependent quality of service (QOS) control, to provide improved system performance.

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